



Australian Government  
Australian Maritime Safety Authority

# LOADING, OR SAILING AFTER PARTIAL DISCHARGE, OF BULK GRAIN

*Marine Orders Part 33 (Cargo and Cargo Handling - Grain)*

This document consists of:

**Part A** - Loading bulk grain or sailing after partial discharge of bulk grain - **Notice of Intention**; and,

**Part B** - Loading bulk grain or sailing after partial discharge of bulk grain - **Stability Calculations**

## GENERAL

Chapter VI of the SOLAS 1974 Convention, as amended, and Australian legislation (Marine Orders Part 33 Cargo and Cargo Handling - Grain) require that ships intending to carry grain cargoes in bulk from Australian ports may be requested to demonstrate compliance with the International Grain Code.

Part A provides the means by which the Australian Maritime Safety Authority will assess whether the Master will be required to demonstrate compliance with the stability requirements of the Code to an attending AMSA Surveyor prior to loading his ship.

Part B is required to be completed prior to loading grain on all vessels and for vessels sailing after part discharge, 24hrs prior to the expected departure time. The completed form B is required to be held on board and made available to AMSA on request.

SOLAS 1974 requires the cargo shipper to provide the Master or his representative with appropriate information on the cargo.

Beyond this it is the Master's responsibility to ensure the proper stowage of the cargo in accordance with Marine Orders Part 33.

## INSTRUCTIONS TO MASTERS

In the case of loading, a completed Part- A "Notice of Intention" is required to be submitted to AMSA at least 72 hours prior to the vessels proposed commencement of loading. If an inspection is deemed to be necessary prior to the commencement of loading AMSA will notify the Master/Agent accordingly.

In the case of intending to sail after partial discharge, a completed Part A "Notice of Intention" is required to be submitted to AMSA at least 24 hours prior to the anticipated time of sailing.

The Master or Agent is required to submit the form to the nearest AMSA office of the port at which grain is to be loaded or partially discharged (see over).

**A separate form is required to be submitted for each successive port** the master may lodge all the notifications together for each port to the relevant office prior to the first port of call or alternatively, individually to each appropriate office.

Strict adherence to the layout of this form is not necessary as long as the information required by it can be provided by alternate means.

Part B "Stability Calculations" is required to be completed prior to commencement of loading, or if the vessel is sailing after partial discharge, prior to such discharge. Part B is required to be made available to an AMSA Surveyor on request.

**A new Part- A is required to be submitted to AMSA if there is any significant change in the loading plan and a new Part B will be required to be completed and available on board.**

## NOTES

AMSA applies the following provisions when assessing compliance with the Code:

1. The Code requires all compartments in which grain is stowed to be either "filled" (trimmed or untrimmed) or "partly filled" (trimmed only). AMSA does not accept "partly filled" compartments untrimmed, even if data for these is approved by the flag State Administration, as they are not provided for in the Code.
2. AMSA cannot accept a compartment as being "filled" if the average ullage at the coaming exceeds the minimum required to accommodate the structure of hatch covers or 100mm, whichever is greater.
3. Untrimmed moments may only be used for filled compartments with the ends untrimmed.
4. (NB: Some Australian grain loading terminals lack the facility to adequately trim the ends of filled compartments and Masters must check the facilities at their load ports if they consider they need to trim the ends of any compartments in order to meet the required stability criteria).
5. In partly filled compartments AMSA accepts grain surfaces in which the height between the highest peaks and the lowest troughs in the compartment is not more than 1.0m as being "level" within the meaning of the Code and therefore trimmed to an acceptable level.
6. It is the responsibility of the Master to ensure that the cargo is trimmed as required by the Code - AMSA will not determine the method by which this is achieved.
7. Ship on voyages solely within the Spencer Gulf, St Vincent's Gulf or Port Phillip Bay should refer to the Appendix of Marine Orders Part 33, as exemptions apply to certain voyages.

# LODGEMENT OF GRAIN FORMS

For the purposes of Provision 9.1 of Marine Orders Part 33 (MO 33), Cargo and Cargo Handling - Grain, the Chief Marine Surveyor has approved the following methods for lodgement:

## QUEENSLAND

### Brisbane

Mail: MO Manager, AMSA  
PO Box 10790  
Adelaide Street  
Brisbane QLD 4000  
Fax: 07 3001 6801  
Email: [brisbane@amsa.gov.au](mailto:brisbane@amsa.gov.au)

### Gladstone

Mail: The Surveyor, AMSA  
PO Box 297  
GLADSTONE QLD 4680  
Fax: 07 4972 3841  
Email: [brisbane@amsa.gov.au](mailto:brisbane@amsa.gov.au)

### Mackay

Mail: The Surveyor, AMSA  
PO Box 42  
Mackay Post Office  
Sydney Street  
Mackay QLD 4740  
Fax: 07 4957 8450  
Email: [brisbane@amsa.gov.au](mailto:brisbane@amsa.gov.au)

## VICTORIA and TASMANIA

### Melbourne; Geelong; Portland; and Tasmanian Ports

Mail: MO Manager, AMSA  
PO Box 16001  
Collins Street West  
MELBOURNE VIC 8007  
Fax: 03 8612 6003  
Email: [melbourne@amsa.gov.au](mailto:melbourne@amsa.gov.au)

## SOUTH AUSTRALIA

### Port Adelaide; Port Lincoln; Port Pirie; Port Giles; Wallaroo; Ardrossan; and Thevenard

Mail: The Surveyor, AMSA  
PO Box 3245  
Port Adelaide, SA 5015  
Fax: 08 8440 3855  
Email: [adelaide@amsa.gov.au](mailto:adelaide@amsa.gov.au)

## NEW SOUTH WALES

### Port Kembla

Mail: The Surveyor, AMSA  
PO Box 2009  
NORTH SYDNEY NSW 2059  
Fax: 02 8918 1390  
Email: [sydney@amsa.gov.au](mailto:sydney@amsa.gov.au)  
or  
Mail: Surveyor in Charge, AMSA  
PO BOX 102  
Port Kembla NSW 2505  
Fax: 02 4274 7806  
Email: [sydney@amsa.gov.au](mailto:sydney@amsa.gov.au)

### Newcastle

Mail: Surveyor in Charge, AMSA  
PO Box 86  
CARRINGTON NSW 2294  
Fax: 02 4961 2694  
Email: [sydney@amsa.gov.au](mailto:sydney@amsa.gov.au)

## WESTERN AUSTRALIA

### Geraldton; Kwinana; Bunbury; Esperance; and Albany

Mail: MO Manager, AMSA  
PO Box 1332  
FREMANTLE WA 6959  
Fax: 08 9430 2121  
Email: [fremantle@amsa.gov.au](mailto:fremantle@amsa.gov.au)







**TABLE 4 – CALCULATION OF KG AND GM**

Totals	Departure			Intermediate			Arrival		
	Weight	Moment	F.S. moment	Weight	Moment	F.S. moment	Weight	Moment	F.S. moment
Ship and cargo									
Fuel and water									
Grand Totals DISPLACEMENT									

Departure KG		Intermediate KG		Arrival KG	
Free surface corr. (+)		Free surface corr. (+)		Free surface corr. (+)	
Corrected KG <sub>v</sub>		Corrected KG <sub>v</sub>		Corrected KG <sub>v</sub>	
<b>Departure KM</b>		<b>Intermediate KM</b>		<b>Arrival KM</b>	
<b>DEPARTURE GM (KM – KG<sub>v</sub>)</b>		<b>INTERMEDIATE GM</b>		<b>ARRIVAL GM</b>	
Required Minimum GM	0.30m		0.30m		0.30m

$$\text{Uncorrected KG} = \frac{\text{Total Moments}}{\text{Displacement}} \quad \text{Free Surface Correction} = \frac{\text{Total Free Surface Moments}}{\text{Displacement}}$$

**TABLE 5 – STABILITY SUMMARY**

**A. For vessels approved under A7 of the Grain Code**

	Departure	Intermediate	Arrival
Displacement			
KG <sub>v</sub>			
Total corrected grain heeling moments			
Maximum allowable heeling moments			
Angle of heel* (12° maximum**)			
Residual area* (minimum° .075 Metre-radians)			
Corrected GM* (minimum 0.30m)			

\* To be completed if vessel's grain loading booklet does not include a table of allowable heeling moments or where the actual KG and Displacement fall outside the parameters of the table. In such cases, statical stability diagrams demonstrating this information shall be attached hereto.

\*\* The angle of heel due to the shift of grain shall not be greater than 12° or in the case of ships constructed on or after 1 January 1994 the angle at which the deck edge is immersed, whichever is the lesser.

**B. For specially suitable ships approved under A8 of the Grain Code**

	Departure	Intermediate	Arrival
Total corrected grain heeling moments			
Displacement			
Corrected GM			
<b>Angle of heel (5° maximum)</b>			

$$\text{ANGLE OF HEEL} = \frac{\text{Grain heeling moment X 57.3}}{\text{Displacement X GM}}$$

**C. For vessels applying A9 of the Grain Code the Master shall provide to AMSA information demonstrating compliance with that part.**

**TABLE 6 – SHEAR FORCE AND BENDING MOMENT**

	Departure	Intermediate	Arrival
Maximum shear force (% of allowable seagoing)			
Maximum bending moment (% of allowable seagoing)			